

Storm Data and Unusual Weather Phenomena - August 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
ILLINOIS, South				
MASSAC COUNTY --- 2.0 E JOPPA [37.20, -88.81], ROUND KNOB [37.25, -88.75]				
	08/09/13 13:45 CST		50K	Thunderstorm Wind (EG 61 kt)
	08/09/13 13:52 CST		0	Source: Trained Spotter
Numerous large trees were blown down. The most concentrated damage was between Joppa and U.S. Route 45 along County Road 900N. Snapped trees were up to two feet in diameter.				
MASSAC COUNTY --- ROUND KNOB [37.25, -88.75]				
	08/09/13 14:06 CST		0	Hail (0.75 in)
	08/09/13 14:06 CST		0	Source: Trained Spotter
An isolated severe thunderstorm grew into a small bow echo as it crossed extreme southern Illinois. The storm occurred along a cold front as it moved southeast across the Lower Ohio Valley. The activity was supported by a mesoscale vorticity center that was over southeast Missouri. Moderately strong southwest winds aloft (around 30 knots in the mid levels) contributed to storm organization.				
WHITE COUNTY --- CARMi [38.08, -88.17]				
	08/12/13 07:00 CST		0	Heavy Rain
	08/12/13 08:30 CST		0	Source: Emergency Manager
The county emergency management director reported 1.58 inches of rain in 90 minutes. Minor street flooding was reported.				
A small cluster of thunderstorms developed ahead of a cold front as it moved southeast across the Missouri Valley. These storms produced very heavy rain.				
(IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC				
	08/19/13 00:00 CST		0	Dense Fog
	08/19/13 08:00 CST		0	
Widespread dense fog blanketed much of southern Illinois. High pressure centered over the Upper Ohio Valley produced a light east to southeast wind flow of moist air. Very moist ground from a cool and wet pattern during the first half of August contributed to the fog. Visibility was reduced to one-quarter mile or less across a widespread area south of the Interstate 64 corridor.				
(IL-Z075) JEFFERSON, (IL-Z076) WAYNE, (IL-Z077) EDWARDS, (IL-Z078) WABASH, (IL-Z080) PERRY, (IL-Z081) FRANKLIN, (IL-Z082) HAMILTON, (IL-Z083) WHITE, (IL-Z084) JACKSON, (IL-Z085) WILLIAMSON, (IL-Z086) SALINE, (IL-Z087) GALLATIN, (IL-Z088) UNION, (IL-Z089) JOHNSON, (IL-Z090) POPE, (IL-Z091) HARDIN, (IL-Z092) ALEXANDER, (IL-Z093) PULASKI, (IL-Z094) MASSAC				
	08/31/13 12:00 CST		0	Heat
	08/31/13 16:00 CST		0	
Afternoon heat indices topped out between 105 and 110 degrees at most airport observing sites. The heat index reached 107 at Carbondale, 105 at Harrisburg, and 107 at Carmi. Actual air temperatures were as high as the mid 90's. The hot and humid conditions were the result of a southwest wind flow ahead of a cold front over central Illinois and central Missouri. At 500 mb, a large high was centered over the Southwest, with a ridge extending east into the lower Mississippi Valley.				
WHITE COUNTY --- CROSSVILLE [38.17, -88.07]				
	08/31/13 22:30 CST		0	Thunderstorm Wind (EG 56 kt)
	08/31/13 22:30 CST		0	Source: Trained Spotter
A trained spotter estimated a wind gust to 65 mph. Tree branches were blown down.				
A short line of thunderstorms moved southeast across the Lower Wabash Valley, accompanied by isolated wind damage. These storms were in advance of a weak cold front that extended from central Indiana westward along Interstate 70 to the Mississippi River. The storms moved through a moderately unstable air mass with mixed-layer capes between 1000 and 2000 j/kg.				
INDIANA, Southwest				
(IN-Z081) GIBSON, (IN-Z082) PIKE, (IN-Z085) POSEY, (IN-Z086) VANDERBURGH, (IN-Z087) WARRICK, (IN-Z088) SPENCER				

Storm Data and Unusual Weather Phenomena - August 2013

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	08/31/13 12:00 CST		0	Heat
	08/31/13 16:00 CST		0	

Afternoon heat indices topped out near 105 degrees at most weather reporting sites. The heat index reached 105 at Evansville. Actual air temperatures were as high as 97 degrees at Evansville. The hot and humid conditions were the result of a southwest wind flow ahead of a cold front over central Illinois and central Missouri. At 500 mb, a large high was centered over the Southwest, with a ridge extending east into the lower Mississippi Valley.

GIBSON COUNTY --- PRINCETON [38.35, -87.57]

08/31/13 22:34 CST	7K	Thunderstorm Wind (EG 52 kt)
08/31/13 22:34 CST	0	Source: Trained Spotter

Numerous large tree limbs were blown down. A trampoline was moved 15 to 20 feet.

VANDERBURGH COUNTY --- EVANSVILLE [37.98, -87.55]

08/31/13 22:55 CST	20K	Thunderstorm Wind (EG 52 kt)
08/31/13 22:55 CST	0	Source: Law Enforcement

A couple of construction trailers were overturned. Several trees were blown down. Power outages were reported.

A short line of thunderstorms moved southeast across southwest Indiana. This line of storms was accompanied by strong and locally damaging winds. These storms were in advance of a weak cold front that extended from central Indiana westward along Interstate 70 to the Mississippi River. The storms moved through a moderately unstable air mass with mixed-layer capes between 1000 and 2000 j/kg.

KENTUCKY, Southwest

GRAVES COUNTY --- WATER VLY [36.57, -88.80]

08/03/13 05:30 CST	0	Heavy Rain
08/03/13 08:00 CST	0	Source: Trained Spotter

A trained spotter measured five inches of rain, which filled ditches and creeks.

FULTON COUNTY --- FULTON [36.52, -88.87], 1.2 SE FULTON [36.51, -88.85], 1.2 S FULTON [36.50, -88.87], 1.4 SSW RICEVILLE [36.50, -88.89], 0.5 WSW RICEVILLE [36.52, -88.89]

08/03/13 08:00 CST	50K	Flash Flood (due to Heavy Rain)
08/03/13 10:30 CST	0	Source: Emergency Manager

Flash flooding of streets and low-lying areas was reported. Streets were closed by police and fire personnel. Floodwaters entered a church and a few businesses.

Numerous clusters of thunderstorms persisted in the vicinity of a stationary front over the Lower Ohio Valley. The storms occurred along the southern fringe of the mid-level westerlies.

MCCRACKEN COUNTY --- 1.9 NNE MELBER [36.98, -88.72], 3.0 SW LONE OAK [37.00, -88.71]

08/07/13 04:35 CST	40K	Thunderstorm Wind (EG 61 kt)
08/07/13 04:40 CST	0	Source: NWS Storm Survey

A microburst downed dozens of trees and limbs. A carport was blown approximately 400 feet and destroyed. The average width of the damage path was 100 yards.

Locally damaging winds occurred in severe convection along the leading edge of an area of thunderstorms. The storms occurred in a southwest low level wind flow ahead of a surface trough over the Mississippi Valley. A weak 500 mb shortwave trough moving east across Missouri further aided storm development.

CALLOWAY COUNTY --- 0.7 NNW FAXON [36.69, -88.16]

08/08/13 12:25 CST	20K	Thunderstorm Wind (EG 52 kt)
08/08/13 12:25 CST	0	Source: Emergency Manager

Trees and limbs were blown down. A tree landed on a house.

Clusters of thunderstorms occurred south of a cold front as it moved south across the Lower Ohio Valley. Moderately strong southwest winds aloft aided storm organization.

Storm Data and Unusual Weather Phenomena - August 2013

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LIVINGSTON COUNTY --- 6.0 E SMITHLAND [37.13, -88.29]				
	08/09/13 14:42 CST		0	Thunderstorm Wind (EG 52 kt)
	08/09/13 14:42 CST		0	Source: Law Enforcement
A wind gust to 60 mph was estimated by law enforcement personnel.				
LIVINGSTON COUNTY --- 1.0 SW SALEM [37.26, -88.26]				
	08/09/13 14:45 CST		0	Funnel Cloud
	08/09/13 14:45 CST		0	Source: Public
A cone-shaped funnel cloud was photographed.				
CRITTENDEN COUNTY --- FRANCES [37.22, -88.13], MEXICO [37.23, -88.10]				
	08/09/13 15:00 CST		4K	Thunderstorm Wind (MG 50 kt)
	08/09/13 15:02 CST		0	Source: Law Enforcement
A wind gust to 58 mph was measured by a trained spotter at Frances. A tree was blown down, blocking Kentucky Highway 70 near Mexico.				
CRITTENDEN COUNTY --- 2.0 SW MARION [37.31, -88.10], 1.9 SSE MARION [37.31, -88.06], 2.3 SSE CRAYNE [37.24, -88.06], 1.2 N MEXICO [37.25, -88.10]				
	08/09/13 15:26 CST		0	Flash Flood (due to Heavy Rain)
	08/09/13 16:50 CST		0	Source: Law Enforcement
Local law enforcement officials reported flash flooding over portions of the county. Water was reported over U.S. Highway 641 between Marion and the county line. The highway was not closed.				
MUHLENBERG COUNTY --- CENTRAL CITY [37.30, -87.13]				
	08/09/13 16:52 CST		0	Heavy Rain
	08/09/13 18:00 CST		0	Source: Social Media
Water was reported over some roads in Central City.				
Isolated severe thunderstorms organized into a small bow echo as they crossed extreme southern Illinois, then moved east across the Ohio River into western Kentucky. The storms occurred along a cold front as it moved southeast across the Lower Ohio Valley. The activity was supported by a mesoscale vorticity center that was over southeast Missouri. Moderately strong southwest winds aloft (around 30 knots in the mid levels) contributed to storm organization.				
CALLOWAY COUNTY --- 3.6 SE NEW CONCORD [36.52, -88.10], NEW CONCORD [36.55, -88.15], 1.7 NNW HAZEL [36.52, -88.33], 0.8 WNW HAZEL [36.50, -88.33]				
	08/10/13 06:30 CST		0	Flash Flood (due to Heavy Rain)
	08/10/13 10:00 CST		0	Source: Law Enforcement
County deputy sheriffs reported water over Highway 121 near the bridge about two miles southeast of New Concord. Water was over several other roads, including spots on U.S. Highway 641. One county road was shut down due to about 18 inches of water over it. Radar estimated around two inches of rain fell near the southern border of Calloway County in two hours.				
Slow-moving thunderstorm complexes occurred along a cold front over western Kentucky. The storms were enhanced by a weak 500 mb shortwave as it moved east across Missouri. These storms produced locally torrential rainfall.				
LIVINGSTON COUNTY --- BAYOU [37.23, -88.48], GRAND RIVERS [37.00, -88.23]				
	08/12/13 15:30 CST		0	Heavy Rain
	08/12/13 17:00 CST		0	Source: Department of Highways
Kentucky Transportation Cabinet highway maintenance crews placed water over road signs at a number of locations across the county.				
Lines of thunderstorms developed ahead of a cold front as it moved southeast across southern and eastern Illinois. The storms intensified during the heat of the afternoon hours. These storms produced very heavy rain.				
LIVINGSTON COUNTY --- HAMPTON [37.28, -88.37], 2.5 SSW JOY [37.31, -88.39]				
	08/17/13 15:00 CST		0	Heavy Rain
	08/17/13 20:00 CST		0	Source: Department of Highways

Storm Data and Unusual Weather Phenomena - August 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
Kentucky Highway 135 was flooded in northern Livingston County. Water over road signs were posted, and travel was discouraged along that section of road.				
A complex of thunderstorms remained nearly stationary over western Kentucky beneath an upper-level low. Rainfall amounts were locally very heavy under this complex of storms.				

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCRACKEN, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z009) CALLOWAY, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z012) TRIGG, (KY-Z013) CALDWELL, (KY-Z016) HOPKINS, (KY-Z017) CHRISTIAN, (KY-Z021) MUHLENBERG, (KY-Z022) TODD				
	08/19/13 00:00 CST		0	Dense Fog
	08/19/13 08:00 CST		0	

Widespread dense fog blanketed much of western Kentucky. High pressure centered over the Upper Ohio Valley produced a light east to southeast wind flow of moist air. Very moist ground from a cool and wet pattern during the first half of August contributed to the fog. Visibility was reduced to one-quarter mile or less across a widespread area south and west of the Henderson and Owensboro regions. A serious vehicle accident in Graves County was blamed on the foggy conditions. One man was hurt in the two-vehicle accident on State Route 80 east of Mayfield. The injuries were not life-threatening.

GRAVES COUNTY --- 2.6 W MAYFIELD [36.74, -88.68]				
	08/20/13 17:45 CST		0	Funnel Cloud
	08/20/13 17:45 CST		0	Source: Public

A small, rope-like funnel cloud extended less than halfway from cloud base to ground level. The funnel cloud was associated with a rain shower or weak thunderstorm. The funnel cloud was photographed by a motorist on Kentucky Highway 80 just west of Mayfield.

A few showers and weak thunderstorms developed under a weak 500 mb trough that extended from the Great Lakes region southward across the Lower Ohio Valley. At the surface, winds were light from the southeast. A funnel cloud was observed with a shower or storm near Mayfield, KY.

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This funnel cloud was observed by a passing motorist on Highway 80 on the western outskirts of Mayfield. Photo of funnel cloud taken by Danette Rowe.

(KY-Z001) FULTON, (KY-Z002) HICKMAN, (KY-Z003) CARLISLE, (KY-Z004) BALLARD, (KY-Z005) MCCracken, (KY-Z006) GRAVES, (KY-Z007) LIVINGSTON, (KY-Z008) MARSHALL, (KY-Z010) CRITTENDEN, (KY-Z011) LYON, (KY-Z013) CALDWELL, (KY-Z014) UNION, (KY-Z015) WEBSTER, (KY-Z016) HOPKINS, (KY-Z018) HENDERSON, (KY-Z019) DAVIESS, (KY-Z020) MCLEAN

08/31/13 12:00 CST	0	Heat
08/31/13 16:00 CST	0	

North and west of a Murray to Cadiz to Central City line, afternoon heat indices topped out between 105 and 110 degrees at most airport observing sites. The heat index reached 108 at Paducah and 110 at Henderson. Actual air temperatures were as high as the mid 90's. The hot and humid conditions were the result of a southwest wind flow ahead of a cold front over central Illinois and central Missouri. At 500 mb, a large high was centered over the Southwest, with a ridge extending east into the lower Mississippi Valley.

DAVIESS COUNTY --- 2.3 WSW PANTHER [37.62, -87.27]

08/31/13 23:30 CST	50K	Thunderstorm Wind (EG 61 kt)
08/31/13 23:30 CST	0	Source: Department of Highways

Downed trees and snapped power poles were reported. Kentucky Highways 554 and 2156 were closed at the Mclean County line due to a snapped power pole and some downed trees.

DAVIESS COUNTY --- OWENSBORO [37.77, -87.12]

08/31/13 23:34 CST	8K	Thunderstorm Wind (EG 50 kt)
08/31/13 23:34 CST	0	Source: Trained Spotter

Several tree limbs were blown down, causing a few power outages.

MCLEAN COUNTY --- 5.0 NW CALHOUN [37.58, -87.33]

08/31/13 23:40 CST	0	Thunderstorm Wind (MG 50 kt)
08/31/13 23:40 CST	0	Source: Mesonet

A Kentucky mesonet site measured a wind gust to 58 mph.

A short line of thunderstorms moved southeast across the Ohio River from Indiana, then accelerated southward across the Pennyrile region. This line of thunderstorms was accompanied by locally damaging winds. These storms were in advance of a weak cold front that extended from central Indiana westward along Interstate 70 to the Mississippi River. The storms moved through a moderately unstable air mass with mixed-layer capes between 1000 and 2000 j/kg.

MISSOURI, Southeast

CARTER COUNTY --- VAN BUREN [37.00, -91.02], ELLSINORE [36.93, -90.75]

08/06/13 06:00 CST	0	Heavy Rain
08/06/13 09:00 CST	0	Source: Law Enforcement

A few low water crossings and flood-prone roads had some water over them.

A mesoscale convective system produced locally one to two inches of rain per hour across southeast Missouri. The system was driven by upper-level divergence near the southern edge of the westerlies. Low level inflow was around 40 knots at 850 mb, providing an excellent supply of moisture. Precipitable water values were from 2 to 2.2 inches.

WAYNE COUNTY --- WAPPAPELLO [36.93, -90.28], GREENVILLE [37.13, -90.47]

08/07/13 07:48 CST	0	Heavy Rain
08/07/13 09:30 CST	0	Source: Law Enforcement

Water was reported over some roads. None of the roads were closed.

Abundant moisture combined with a warm front lifting north through Missouri resulted in complexes of thunderstorms. One to two inches of rain per hour was common in thunderstorms.

Storm Data and Unusual Weather Phenomena - August 2013

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
WAYNE COUNTY --- 2.4 NNE SILVA [37.20, -90.51], 2.4 N SILVA [37.20, -90.52], 1.5 NE SILVA [37.19, -90.50], 2.0 NE SILVA [37.19, -90.49]				
	08/10/13 10:00 CST		0	Flood (due to Heavy Rain)
	08/10/13 15:00 CST		0	Source: River/Stream Gage
Minor flooding occurred along the St. Francis River near Patterson. Some low-lying woods and fields along the river were inundated.				
Thunderstorms with torrential rain caused a short and sharp rise on the St. Francis River. These slow-moving thunderstorm complexes occurred near a cold front over western Kentucky. The storms were enhanced by a weak 500 mb shortwave as it moved east across Missouri.				
NEW MADRID COUNTY --- 2.0 W RISCO [36.57, -89.86], TALLAPOOSA [36.52, -89.82]				
	08/12/13 04:30 CST		0	Heavy Rain
	08/12/13 06:00 CST		0	Source: Trained Spotter
A trained spotter measured 1.8 inches of rain. Ditches were full.				
A thunderstorm complex developed ahead of a cold front as it moved southeast across the Missouri Valley. These storms produced locally very heavy rainfall.				
(MO-Z076) PERRY, (MO-Z087) CAPE GIRARDEAU, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID				
	08/19/13 00:00 CST		0	Dense Fog
	08/19/13 08:00 CST		0	
Widespread dense fog blanketed parts of southeast Missouri. High pressure centered over the Upper Ohio Valley produced a light east to southeast wind flow of moist air. Very moist ground from a cool and wet pattern during the first half of August contributed to the fog. Visibility was reduced to one-quarter mile or less across those counties bordering the Mississippi River, including the Perryville and Cape Girardeau areas.				
(MO-Z076) PERRY, (MO-Z086) BOLLINGER, (MO-Z087) CAPE GIRARDEAU, (MO-Z100) WAYNE, (MO-Z107) CARTER, (MO-Z108) RIPLEY, (MO-Z109) BUTLER, (MO-Z110) STODDARD, (MO-Z111) SCOTT, (MO-Z112) MISSISSIPPI, (MO-Z114) NEW MADRID				
	08/31/13 12:00 CST		0	Heat
	08/31/13 16:00 CST		0	
Afternoon heat indices topped out between 105 and 110 degrees at airport observing sites. The heat index reached 107 at Cape Girardeau and 106 at Poplar Bluff. Actual air temperatures were in the lower to mid 90's. The hot and humid conditions were the result of a southwest wind flow ahead of a cold front over central Illinois and central Missouri. At 500 mb, a large high was centered over the Southwest, with a ridge extending east into the lower Mississippi Valley.				